

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 September 2003 (18.09.2003)

PCT

(10) International Publication Number
WO 03/076041 A1

(51) International Patent Classification⁷: B01D 27/14,
27/10, 35/147, 29/58

(21) International Application Number: PCT/US03/07036

(22) International Filing Date: 6 March 2003 (06.03.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/362,595 8 March 2002 (08.03.2002) US

(71) Applicant (for all designated States except US): DON-
ALDSON COMPANY, INC. [US/US]; 1400 West 94th
Street, P.O. Box 1299, Minneapolis, MN 55440-1299 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): BECHTUM, Keith,
Allan [US/US]; 6224 Wentworth Avenue S., Richfield,

MN 55423 (US). GULSVIG, Brent, Alan [US/US];
17465 Hunt Lake Trail, Faribault, MN 55021 (US). MUL-
DER, David, Wayne [US/US]; 10025 Portland Avenue,
S., Bloomington, MN 55420 (US). HACKER, John, R.
[US/US]; 5614 Saint Andrews Avenue, Edina, MN 55424
(US).

(74) Agent: BRUESS, Steven, C.; Merchant & Gould P.C.,
P.O. Box 2903, Minneapolis, MN 55402-0903 (US).

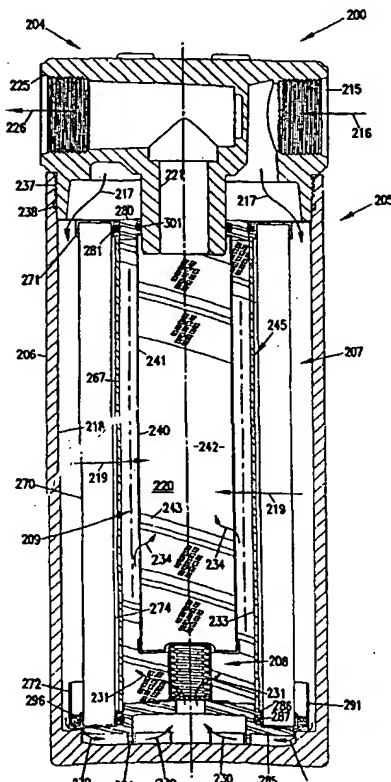
(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: LIQUID FILTER ARRANGEMENT WITH SECONDARY FILTER AND BYPASS FLOW

(57) Abstract: Liquid filter arrangements are provided. In general, the liquid filter arrangements comprise a housing, a primary filter element, a secondary filter construction and a bypass valve arrangement. The components are arranged such that in normal operation, liquid flows through the primary filter element and then through the secondary filter construction; and, such that during bypass valve operations, flow circumvents the primary filter element and is directed through the secondary filter construction, before leaving the liquid filter arrangement. Both a disposable spin on embodiment and a serviceable cartridge embodiment are provided.



WO 03/076041 A1